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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,652	09/10/2003	Muxiang Zhang	02-8027	3700
25537	7590	11/05/2007		
VERIZON PATENT MANAGEMENT GROUP 1515 N. COURTHOUSE ROAD SUITE 500 ARLINGTON, VA 22201-2909			EXAMINER POLTORAK, PIOTR	
			ART UNIT 2134	PAPER NUMBER
			NOTIFICATION DATE 11/05/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@verizon.com

# Office Action Summary

Application No.

10/659,652

Applicant(s)

ZHANG, MUXIANG

Examiner

Peter Poltorak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 18-25 and 34-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) 9-17, 26-33 and 42-57 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/10/03
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

Applicant's election of group 2, claims 1-8, 18-25 and 34-41 in the reply filed on 8/07/07 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Newly submitted claims 15, 32 and 48 into the independent claims 1, 18 and 34, directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

- I. Claims 15, 32 and 48 drawn to authentication comprising utilizing an ordered set of sequence numbers, classified in class 726, subclass 2.
- II. Claims 3-8, 20-25 and 36-41 drawn to receiving values from a serving mobile network, wherein the first value originates from the serving mobile network and a second and third value originates from the user device, and comparing a (fourth) value with a value that is a function of at least two received values received from the serving mobile network, classified in class 380, subclass 247.

Claims 1-2, 18-19 and 34-35 are linking claims.

The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention ( I ) drawn to authentication utilizing an

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ordered set of sequence numbers, classified in class 726, subclass 2 do not require receiving a serving mobile device, wherein the first value originates from the serving mobile network and a second and third value originates from the user device, invention ( II ) drawn to receiving values from a serving mobile device, wherein the first value originates from the serving mobile network and a second and third value originates from the user device, and comparing a (fourth) value with a value that is a function of at least two received values received from the serving mobile network does not require sequence number in the ordered set associated with an authentication vector transmitted to the serving mobile network, for example.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 15, 32 and 48 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

1. Claims 1-8, 18-25 and 34-41 have been examined.

***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority based on a provisional application 60/417,863 filed on 10/11/02.

***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first, second, third, fourth, fifth and sixth values recited in claims 3-6, 20-23 and 36-39 must be shown or the feature(s) canceled from the claim(s). In case the examiner misunderstood the drawings and the current drawing do include these feature, applicant should articulate explicitly each of these elements in the drawings. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

4. Claims 3-8, 20-25 and 36-41 are objected to because as failing to provide proper antecedent basis for the claimed subject matter. The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description (See § 1.58(a).)

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 3-8, 20-25 and 36-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification provides no guidance in teaching how to perform steps recited in claims 3-6, 20-23 and 36-39.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 20-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention.
7. Claims reciting means-plus-function limitations, in particular, might have different scopes depending on the corresponding structure described in the written description. However, since it is not clear what constitute of a first, second, third, fourth and fifth values the metes and bounds of claims 20-22 cannot be determined.
8. The phrase: "generating the fourth value is carried out by evaluating the second function with the first value and the second value as inputs" (claims 4, 21 and "carried out by evaluating" in claim 37) is not understood. It is not clear how a value(s) can be "evaluated" with a function. For purpose of the further examination the term "evaluating" is treated as "applying".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-4, 18-21 and 34-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Aura (USPN 6711400).

As per claims 1, 18 and 34, Aura discloses a system and a method for facilitating authentication in a wireless network comprising:

- a. receiving an initial nonce value (RAND1) from a serving mobile network (VPLMN) in an authentication data request (IMSI, RAND1) associated with a user device (MS), the initial nonce value originating from the user device (object 401, Fig. 4);
- b. generating a subsequent nonce value (RAND2) from the initial nonce value based on a function (object 404, algorithms A3 and A8, Fig. 4, col. 2 lines 27-col. 3 line 19) that is shared with the user device;
- c. generating an authentication vector (405) associated with the user device, the authentication vector including the subsequent nonce value; and transmitting the authentication vector to the serving mobile network (Fig. 4).

10. As per claims 2, 19 and 35, Aura discloses receiving an International Mobile Station Identifier (IMSI) corresponding to the user device from the serving mobile network (Fig. 4).

11. As per claims 3-4, 20-21 and 36-37, Aura discloses receiving a first value (SRES1), a second value (Kc) and a third value (SRES2'), generating a fourth value (SRES2)



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based on the first value and determining whether the fourth value (carried out by evaluating the second function with the first value and the second value as inputs) equals the third (409).

### ***Conclusion***

If objections to drawings and claims as well as 35 U.S.C. 112 rejection were addressed appropriately, claims 5-8, 22-25 and 37-41 would be objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Pütz (Stefan Pütz, Roland Schmitz, Tobias Martin, "Security Mechanisms in UMTS", Datenschutz, and Datensicherheit (DUD), vol. 25, pp 1-10, 2001), [http://fb1.hdm-stuttgart.de/skripte/Internetsecurity\\_2/Papers/UMTS-SecurityMechanisms.pdf](http://fb1.hdm-stuttgart.de/skripte/Internetsecurity_2/Papers/UMTS-SecurityMechanisms.pdf),

Anita Singhrova, Rita Mahajan, "Performance Analysis of 3G Protocol: Encryption and Authentication, <http://www.comp.brad.ac.uk/het-net/tutorials/P10.pdf>.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571) 272-

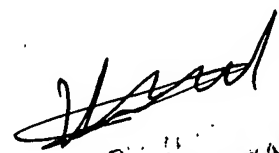
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3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
10/29/07

  
KAMBIZ ZAND  
SUPERVISORY PATENT EXAMINER